

Claims

- [c1] What is claimed is: 1. A body force alarming apparatus comprising: a housing; a power supply; a piezo sensor; a controller; an output generator; wherein said piezo sensor is accommodated within a user's shoe and connected to said controller; wherein said piezo sensor, controller and said output generator are connected to said power supply; wherein said controller, output generator and power supply are accommodated within said housing; wherein said controller is connected to said output generator, wherein said controller is set to generate a signal to the output generator when a threshold level of force signal is received from said piezo sensor; wherein said sensor signals said controller when force from an impact is applied to said piezo sensor; and wherein said controller signals said output generator when one or more signals indicating threshold levels of force have been reached; and— wherein said output generator generates a perceivable signal in response to a signal from said controller.
- [c2] A body force alarming apparatus of claim 1, wherein said piezo sensor is comprised of two or more piezo sensors to provide feedback when one or more levels of force are

sensed.

- [c3] A body force alarming apparatus of claim 1, further comprising a means to automatically adjust the controller.
- [c4] A body force alarming apparatus of claim 1, further comprised of a microcontroller wherein said microcontroller, once activated by a user with a switch, performs the steps of: recording one or more amounts of impact for a predetermined period of time; averaging said amounts of impact recorded over said period of time; and setting the controller's feedback threshold to an amount equal to the average value.
- [c5] A body force alarming apparatus of claim 1, further comprised of a microcontroller wherein said microcontroller, once activated by a user with a switch, performs the steps of: recording one or more amounts of impact for a predetermined period of time; averaging said amounts of impact recorded over said period of time; and setting the controller's feedback threshold to an amount above or below the average value.
- [c6] A body force alarming apparatus of claim 1, wherein said output generator has a separate power source and said controller and said output generator are wirelessly con-

nected.

- [c7] A body force alarming apparatus of claim 1, wherein said output generator is separately attached to the body of the user.
- [c8] A body force alarming apparatus of claim 1, wherein said controller is separately attached to the body of the user.
- [c9] A body force alarming apparatus of claim 1, wherein said output generator is separated from the user.
- [c10] A body force alarming apparatus of claim 1, wherein said controller is separated from the user.
- [c11] A body force alarming apparatus of claim 1, wherein said piezo sensor is an impact transducer.
- [c12] A body force alarming apparatus of claim 1, wherein said sensor, controller and feedback generator are accommodated in said person's shoe.
- [c13] A body force alarming apparatus of claim 1, wherein said perceivable signal is an audio beep, a musical tone or tones, a click, a vibration, a shock, a pressure applied to the user, or a light emission.
- [c14] A body force alarming apparatus of claim 1, wherein said controller is preset to generate two or more signals to

the output generator when two or more corresponding signals are received from said sensor which are at or above the two or more corresponding threshold levels of force.

[c15] A body force alarming apparatus of claim 1, wherein said output generator generates two or more corresponding perceivable distinct signals in response to each corresponding signal from said controller.

[c16] A body force alarming apparatus of claim 1, further comprising a low battery sensor wherein a low battery alarm is produced when a low battery is detected.

[c17] A body force alarming apparatus of claim 1, further comprising an on/off switch.

[c18] A body force alarming apparatus of claim 1, further comprising a digital display for displaying one or more amounts of force applied to the sensor.

[c19] A body force alarming apparatus of claim 1, further comprising a beginner setting, and intermediate setting and an advanced setting, wherein when the controller is set to beginner, intermediate or advanced and the corresponding threshold is set to take a large, medium or small impact for the controller to signal the output generator.

- [c20] A body force alarming apparatus of claim 1, further comprising a wireless receiver to remotely receive output data transmitted by the controller.
- [c21] A body force alarming apparatus of claim 1, further comprising a wireless receiver to remotely receive output data transmitted by the sensor.
- [c22] A body force alarming apparatus of claim 1, further comprising a wireless receiver to remotely receive output data transmitted by the output generator.
- [c23] A body force alarming apparatus of claim 22, wherein said output data is recorded.
- [c24] A body force alarming method comprising the steps of: setting the controller to generate a signal to the output generator when a threshold level of force signal is received from a piezo sensor; signaling said controller with the sensor when an amount force from an impact is applied to said sensor; signaling an output generator when one or more signals from said sensor indicate that one or more predetermined threshold levels of force have been sensed; and generating a perceivable signal with said output generator in response to a signal from said controller wherein the steps are performed using an apparatus comprised of: a housing; a power supply; said

piezo sensor; said controller; and said output generator; wherein said piezo sensor is accommodated within a user's shoe and connected to said controller; wherein said piezo sensor, controller and said output generator are connected to said power supply; wherein said controller, output generator and power supply are accommodated within said housing; and wherein said controller is connected to said output generator.

[c25] A body force alarming method of claim 24, wherein said piezo sensor is comprised of two or more piezo sensors to provide feedback when one or more levels of force are sensed.

[c26] A body force alarming method of claim 24, wherein said apparatus is further comprised of a means to automatically adjust the controller.

[c27] A body force alarming method of claim 24, wherein said apparatus is further comprised of a microcontroller wherein said microcontroller, once activated by a user with a switch, performs the steps of: recording one or more amounts of impact for a predetermined period of time; averaging said amounts of impact recorded over said period of time; and setting the controller's feedback threshold to an amount equal to the average value.

- [c28] A body force alarming method of claim 24, wherein said apparatus is further comprised of a microcontroller wherein said microcontroller, once activated by a user with a switch, performs the steps of: recording one or more amounts of impact for a predetermined period of time; averaging said amounts of impact recorded over said period of time; and setting the controller's feedback threshold to an amount above or below the average value.
- [c29] A body force alarming method of claim 24, wherein said output generator has a separate power source and said controller and said output generator are wirelessly connected.
- [c30] A body force alarming method of claim 24, wherein said output generator is attached to the body of the user.
- [c31] A body force alarming method of claim 24, wherein said controller is attached to the body of the user.
- [c32] A body force alarming method of claim 24, wherein said output generator is separated from the user.
- [c33] A body force alarming method of claim 24, wherein said controller is separated from the user.
- [c34] A body force alarming method of claim 24, wherein said

piezo sensor is an impact transducer.

[c35] A body force alarming method of claim 24, wherein said sensor, controller and feedback generator are accommodated in said person's shoe.

[c36] A body force alarming method of claim 24, wherein said perceivable signal is an audio beep, a musical tone or tones, a click, a vibration, a shock, a pressure applied to the user, or a light emission.

[c37] A body force alarming method of claim 24, wherein said controller is preset to generate two or more signals to the output generator when two or more corresponding signals are received from said sensor which are at or above the two or more corresponding threshold levels of force.

[c38] A body force alarming method of claim 24, wherein said output generator generates two or more corresponding perceivable distinct signals in response to each corresponding signal from said controller.

[c39] A body force alarming method of claim 24, wherein said apparatus is further comprised of a low battery sensor wherein a low battery alarm is produced when a low battery is detected.

- [c40] A body force alarming method of claim 24, wherein said apparatus is further comprised of an on/off switch.
- [c41] A body force alarming method of claim 24, wherein said apparatus is further comprised of a digital display for displaying one or more amounts of force applied to the sensor.
- [c42] A body force alarming method of claim 24, wherein said apparatus is further comprised of a beginner setting, and intermediate setting and an advanced setting, wherein when the controller is set to beginner, intermediate or advanced and the corresponding threshold is set to take a large, medium or small impact for the controller to signal the output generator.
- [c43] A body force alarming method of claim 24, wherein said apparatus is further comprised of a wireless receiver to remotely receive output data transmitted by the controller.
- [c44] A body force alarming method of claim 24, wherein said apparatus is further comprised of a wireless receiver to remotely receive output data transmitted by the sensor.
- [c45] A body force alarming method of claim 24, wherein said apparatus is further comprised of a wireless receiver to remotely receive output data transmitted by the output

generator.

[c46] A body force alarming method of claim 45, wherein said output data is recorded.